

What is claimed is:

1 1. A method comprising:
2 interconnecting at least two aggregation devices by
3 an Inter Switch Trunk (IST) link to logically operate as a
4 single device; and
5 synchronizing forwarding records of local routing
6 instances between the at least two aggregation devices.

1 2. The method of claim 1, wherein prior to
2 synchronizing the forwarding records, the method further
3 comprising:
4 exchanging messages between the at least two
5 aggregation devices to ensure that each of the at least
6 two aggregation devices is routed split multilink trunking
7 (RSMLT) enabled.

1 3. The method of claim 1, wherein the forwarding
2 records are media access control (MAC) records.

1 4. The method of claim 3, wherein the local routing
2 instances are for Internet Protocol (IP) networking.

1 5. The method of claim 3, wherein the synchronizing
2 of the MAC records includes exchanging local MAC addresses
3 supported by a first aggregation device of the at least
4 two aggregation devices with a second aggregation device
5 of the at least two aggregation devices.

1 6. The method of claim 5, wherein each of the MAC
2 records further comprise a routing bit that, when set,
3 enables local routing instances of the first aggregation
4 device to process packets having MAC addresses associated
5 with the MAC records.

1 7. The method of claim 2 further comprising:
2 handling all packets received from and transferred to
3 a communication device by a first aggregation device of
4 the at least two aggregation devices when a second
5 aggregation device of the at least two aggregation devices
6 is down.

1 8. The method of claim 2 further comprising:
2 handling all information received from and
3 transferred to a communication device by a first
4 aggregation device of the at least two aggregation devices
5 when a link interconnecting the communication device and a
6 second aggregation device of the at least two aggregation
7 devices is down.

1 9. A system comprising:
2 an Inter Switch Trunk (IST) link;
3 a first aggregation device coupled to the IST link,
4 the first aggregation device comprises a first set of
5 ports, first processing logic coupled to the first set of
6 ports, and a first memory element coupled to the first
7 processing logic, the first memory element including a
8 routing table that comprises a first set of media access
9 control (MAC) records; and
10 a second aggregation device coupled to the IST link,
11 the second aggregation device to obtain the first set of
12 MAC records for use by one or more local routing instances
13 within the second aggregation device.

1 10. The system of claim 9, wherein the second
2 aggregation device comprises a second set of ports, second
3 processing logic coupled to the second set of ports, and a
4 second memory element coupled to the second processing

5 logic, the second memory element including a table that
6 comprises a second set of MAC records.

1 11. The system of claim 10, wherein the first
2 aggregation device to obtain the second set of MAC records
3 from the second aggregation device for use by one or more
4 local routing instances within the first aggregation
5 device.

1 12. The system of claim 9, wherein both the first
2 aggregation device and the second aggregation device are
3 switches.

1 13. The system of claim 9, wherein the first
2 aggregation device informs the second aggregation device
3 that it is routed split multilink trunking (RSMLT) enabled
4 by issuing a first message to begin synchronization of the
5 first and second sets of MAC records contained by the
6 first and second aggregation devices.

1 14. The system of claim 13, wherein the first
2 aggregation device sends a second message after the first
3 message to begin synchronization of the MAC records, the
4 second message comprises an IP addresses of IP routing
5 instances of the first aggregation device, MAC addresses
6 of the IP routing instances, and virtual local area
7 network (VLAN) identifiers of a VLAN on which the IP
8 routing instances participate.

1 15. The system of claim 13, wherein the first
2 aggregation device sends a second message after the first
3 message to begin synchronization of the MAC records, the
4 message comprises an IPX network address of IPX routing
5 instances of the first aggregation device, MAC addresses
6 of the IPX routing instances, and virtual local area

7 network (VLAN) identifiers of a VLAN on which the IPX
8 routing instances participate.

1 16. The system of claim 14, wherein the second
2 aggregation device comprises a hold-down timer that, upon
3 receipt of the first and second messages, the hold-down
4 timer is activated.

1 17. The system of claim 16, wherein after expiration
2 of the Hold-down timer of the second aggregation device,
3 the first set of MAC records associated with local routing
4 instances supported by the first aggregation device are
5 programmed by the second aggregation device.

1 18. The system of claim 17, wherein the second
2 aggregation device further comprises a hold-up timer that
3 is activated once a routing problem is detected, at least
4 some data traffic previously forwarded by the first
5 aggregation device is then forwarded by the second
6 aggregation device until the hold-up timer expires.

1 19. An aggregation device in communication with an
2 IST peer device, comprising:
3 a control plane; and
4 a data plane in communication with the control plane,
5 the data plane to provide sub-second failover recovery and
6 provide control plane protocols enough time to converge
7 without adversely affecting data forwarding operations
8 through synchronization of media access control (MAC)
9 records of local routing instances with the IST peer
10 device.

1 20. The aggregation device of claim 19, wherein the
2 local routing instances are local routing instances for
3 Internet Protocol (IP) networking.